Effect of Guided Inquiry Based Learning Intervention Programme on Educational Entrepreneurial Skills of Pupil Teachers

Synopsis

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1.0.0 INTRODUCTION

Entrepreneurship helps in economic development of a nation. It creates wealth, and the community as a whole is developed. It aids future development and provides youth with employment chances. Entrepreneurs are the person or group that works to create innovative and ambitious problem-solving technique. In order to succeed every entrepreneur needs entrepreneurship skills. Once potential for progress is limited by lack of entrepreneurship skills. Entrepreneurial skills are a collection of different abilities rather than being one specific skill. At any level, whether a student or a professional, skills are necessary to be successful. There are numerous surprises in the twenty-first century. Among the most cutting-edge advancements of the century are those in technology and communications. Developing entrepreneurial abilities has become more important as a result of advancements. National Education Policy 2020 suggested that for achieving the goal of quality education, the institutions need to be equipped with experience based pedagogy that integrate hands-on experience and learner centric approach and also providing more access to ODL. More focus is given on teacher education by providing them professional courses through multidisciplinary mode which enhance the quality of teachers produced by these institutions and inculcate them with better teaching skills (Yenugu, S. 2022).

There is a need to provide hands-on experience to students that can enhance their skills and help them to gain expertise in a particular area of knowledge. NEP 2020 focuses on providing entrepreneurial skills to the students so they can begin their career with self employement. Entrepreneurial skills can be developed through different models of entrepreneurial education in pedagogical requirements. These models are Entrepreneurship Education with the Experiment, AIM pyramid, Entrepreneurial Education Model, Twenty-first Century Model of Entrepreneurial Education, Tailor- C model, COBLAS model, etc. (Tatpuje, D. U., Jadhav, V., & Ganbote, A. 2021).

NEP 2020 policy is focusing on the flexible and interdisciplinary curriculum that fosters critical thinking, problem-solving, creativity, and digital literacy. It also lays emphasises on curriculum based on experiential learning which reduces the load of curriculum. For a rapidly changing work environment, NEP 2020 pays more attention to vocational education and use of technology. It also ensures continuous professional development of teacher educators (Banerjee, M., & Krishnagar, N. 2023) and it suggests granting more incentives to higher education in India. More emphasis is given on developing

communication, discussion, debate, research and opportunity for cross and interdisciplinary thinking. NEP 2020 focuses on setting up of start- ups incubation centres and professional education too (Aithal, P. S., & Aithal, S. 2020). NEP 2020 is more inclined towards introducing innovative pedagogical strategies that foster quality education. For this they integrate all the streams in education and introduce multidisciplinary and interdisciplinary knowledge based courses and innovatively use OERs and MOOCs courses and practise quality in education (Gupta, S., & Garg, S. 2021).

NEP 2020 envisages to incorporate entrepreneurial skills and vocational skills among the students. Entrepreneurial education helps in generating entrepreneurial skills like ability to seek opportunities by generating innovative ideas, form and run firms and think critically and creatively. There is a positive relationship between entrepreneurial education and entrepreneurial activities (Raposo, M.L.B., & Paço, A.M.F.D. 2011). Business management, leadership, time management, creative thinking, and problem-solving are just a few of the skill sets that make up entrepreneur talents. These entrepreneurial abilities are essential for fostering creativity, business expansion, and competition. These skills require the development of numerous skills at once. For instance, it might need to hone business management skills and develop risk-taking abilities in order to be a successful entrepreneur.

1.1.0 GUIDED INQUIRY BASED LEARNING (GIBL)

Guided inquiry based learning is a scientific process of active exploration that uses critical, logical, and creative thinking skills to answer questions by teacher guidance. Any assignment given to the students under the guidance of the teachers and allowing students to undertake their own investigations is an example of guided inquiry learning. Guided inquiry based learning integrated with enterprise education positively affects the general entrepreneurial competencies of the students (Deveci, İ. 2022). This model helps students to shape their behaviour in a scientific way via contextual approach and to attain this objective role of teacher is important that is significantly given positive results. So guided inquiry based learning is basically an approach under the guidance of the teachers in which students identify the problem, suggest alternative solutions, analyses and finally come to a conclusion that improve learning outcome.(Rahayu, A.B., Hadi, S., Istyadji, M., Zaini, M., Sholahuddin, A., & Fahmi, F. 2018).

Guided inquiry based learning is a problem solving approach in which the problem is provided by the teacher and students are expected to find the solution by themselves but here the teacher play crucial

role of more knowledgeable others that influence and improve the learning of the students (Boud, D., & Feletti, G. I. 2013). Defines guided inquiry based learning as providing students an environment to learn freely to improve and integrate their ability to real life (Marheni, N.P., & Suardana, I.N. 2014). It is a sort of constructivist methodology that effectively raises students' achievement in logo programming tactics in comparison to those who employed discovery learning techniques (Mayer, R. E. 2004).

Guided inquiry method emphasizes on the ability of the students to identify the problem and find solutions under the guidance of the teachers or supervisors in a presented way. Guided inquiry based learning helps students to provide real life experience to solve problems according to their abilities and efforts (Destryani, T. A. N., Gloria, R. Y., & Sahrir, D. C. 2022)**.** Teachers play a significant role in guided inquiry-based learning because they give students scaffolding to engage them in the learning process and foster critical and creative thinking (Trumbull, D. J., Bonney, R., & Grudens-Schuck, N. 2005).

Guided inquiry learning is a constructivist method in which the teacher or instructor plan the entire process, starting with the inquiry question and ending with the problem's solution. They also planned the types of activities that would be carried out throughout the process, such as a structure, blueprint, or action plan. In general, guided inquiry learning involves six steps: initiation, selection, exploration, formulation, collection, and presentation (Kuhlthau, C. 2010). It is a bridge between direct instruction as in the past and open-ended scientific inquiry as in the present. This approach was developed from inquiry-based learning, making it an expanded version of that approach (Furtak, E. M. 2006). As guided inquiry learning is a time consuming activity as compared to traditional teaching approach but despite of this disadvantages the technique improves teachers- students interaction, student’s motivation, self awareness and also teamwork that enhanced the self-constructed knowledge of the students (García González, M., & Veiga Díaz, M. T. 2015).

The guided inquiry learning model is a strategy that aids in learning by utilising several scientific methods. Guided inquiry learning is significantly enhancing the students' scientific literacy (Saefullah, A., Samanhudi, U., Nulhakim, L., Berlian, L., Rakhmawan, A., Rohimah, B., & El Islami, R. A. Z. 2017). It has been found to be an effective method for the students because teachers guide the students in a structured manner. Teachers also engage the students in the activities while using guided inquiry

learning to make the cognitive variable strategies understandable (Stender, A., Schwichow, M., Zimmerman, C., & Härtig, H. 2018). So it is an excellent method for teaching and learning. It may be used to develop lesson plans, worksheets for students, and examinations of students' science literacy abilities. Guided inquiry-based learning is implemented via research and development design (Aulia, E. V., Poedjiastoeti, S., & Agustini, R. 2018).

Guided inquiry-based learning has a good correlation with student accomplishment and interest (Kang, J., & Keinonen, T. 2018). By utilising the Dick and Carey technique, a guided inquiry-based learning tool was built that exhibits a notable improvement in learning outcomes for science content when compared to traditional learning. Students are reported not able to answer the problems accurately, but they are able to formulate situations that are linked to the problem (Rahayui, A. B., Hadi, S., Istyadi, M., Zaini, M., Sholahuddin, A., & Fahmi, F. 2018).

Guided inquiry based learning is a constructivist approach which includes planning, targeting and supervising the whole learning intervention program. Kuhlthau, C. (2010) provides an Information Search Process (ISP) model which includes initiation, selection, exploration, formulation, collection and presentation. In ISP model, assessment is an ongoing process that runs parallel through all the stages. In contrast to problem-based learning, guided inquiry learning is an effective method for delivering education to young pupils (Palupi, B. S., & Subiyantoro, S. 2020). By using guided inquiry based learning method teacher can provide instructions to the students in solving the problem that can help them to overcome the learning difficulties and enhanced their academic achievement (Orosz, G., Németh, V., Kovács, L., Somogyi, Z., & Korom, E. 2023). Guided inquiry based learning method used to find the learning style of the learners as prescribed by Kolb's model. Results show that guided inquiry based model suits fit for identifying learning styles (Sudria, I. B. N., Redhana, I. W., Kirna, I., & Aini, D. 2018).

So it can be concluded that Guided inquiry based learning is an extension of inquiry based learning which is helpful in holistic development of the students. Students can learn by getting hands-on experience where they can explore and find solutions to the problems by choosing the best alternative through analysing the situation. Teachers are providing directions to the students so they will be on the right path in the process of problem solving journey. Students are assessed by teachers during the

learning process, which makes guided bases inquiry learning method more interesting and motivating for the students.

1.2.0 EDUCATIONAL ENTREPRENEURIAL SKILLS (EES)

Entrepreneur is a person who has a vision, can start a business, and is innovative, dynamic and flexible in nature. Entrepreneurs should identify the opportunities, initiate the business, and work on its growth and sustainability (Smith, K., Petersen, J. L., & Fund, N. V. 2006). Entrepreneurial education is positively correlated with entrepreneurial tendency to start an enterprise. It is found that the absence of entrepreneurial education is a barrier in generating entrepreneurial skills among the students. (Akhmetshin, E. M., Mueller, J. E., Yumashev, A. V., Kozachek, A. V., Prikhodko, A. N., & Safonova, E. E. 2019).

Educational entrepreneur is a person who basically arranges resources and intently makes changes, especially seeking new opportunities, bringing improvement, raising finance, managing, quality enhancement and promoting them effectively to run the particular institution that would be beneficial for students, teachers and parents too. There are ten attributes that defines educational entrepreneurs which are vision, ability to allocate resources, delegate, organise, reduce individual and team stress, think long term, leadership, motivation, select and manage a good team (Boyett, I., & Finlay, D. 1993). There is a positive relation between entrepreneurial education and entrepreneurial skills. Entrepreneurial education helps entrepreneurs to face the hurdles and challenges during operation of a business (Almahry, F. F., Sarea, A. M., & Hamdan, A. M. 2018).

In order to succeed in converting obstacles into lucrative business opportunities, as well as having the necessary entrepreneurial skills, expertise, and hard work, prospective entrepreneurs must have the appropriate mindset. Additionally, governments and corporate entities need to support by funding the country's entrepreneurial education (Odia, J. O., & Odia, A. A. (2013). There is a strong relationship between the business plan, risk taking, as well as self-efficacy and programme effectiveness, while a moderate relationship is seen in the need for achievement and locus control, and entrepreneurship education and training can encourage the development of entrepreneurial skills and activities (Din, B. H., Anuar, A. R., & Usman, M. (2016). It has been proven that developing entrepreneurial abilities through entrepreneurial education aids job placement. A generalised approach that promotes

entrepreneurial skills without regard to country-specifics may not produce the desired outcomes. Jurisdictions in entrepreneurship education (EE) for promoting entrepreneurial skills (ES) are being taken into consideration (Kucel, A., Róbert, P., Buil, M., & Masferrer, N. 2016). Accounting students shows risk taking, critical thinking, problem solving, and innovation as crucial entrepreneurial abilities to begin their own business (Reyad, S. M. R., Musleh Al-Sartawi, A., Badawi, S., & Hamdan, A. 2019). The goal of entrepreneurship in higher education is to give both to the students, a foundation of knowledge and to inspire their entrepreneurial thinking. In order to foster entrepreneurial thinking, interested students are essential to the educational system and environment of their university (Akhmetshin, E. M., Mueller, J. E., Yumashev, A. V., Kozachek, A. V., Prikhodko, A. N., & Safonova, E. E. 2019). The authors looked at four entrepreneurial abilities in particular in order to better understand how business undergraduates think about entrepreneurship for business students as essential for launching their own companies (Badawi, S., Reyad, S., Khamis, R., Hamdan, A., & Alsartawi, A. M. 2019).

Entrepreneurship education programmes were introduced as a way to combat graduate unemployment, and that there is a need to encourage entrepreneurial skills in graduates. It was discovered that entrepreneurship education may not produce the expected results as effectively if it is not sufficiently connected with contextual characteristics (Olutuase, S. O., Brijlal, P., & Yan, B. 2023).A tripartite ES model, which integrates the following competencies: innovation and creativity, spirit of initiative, self-efficacy and resilience, strategic planning and evaluation, problem-solving and decision-making, transformational leadership, clear and visual communication, teamwork and networking, and digital communication, is the most effective (Jardim, J. (2021). Environmental factors, entrepreneurship education support programmes, and entrepreneurial skills are influencing people's entrepreneurial behaviour and intuition (Akter, B., & Iqbal, M. A. 2022).

Entrepreneurial skills development is the process of developing and running a business that is built around an idea to solve a problem or address an issue in a unique way. Entrepreneurs identify problems or issues in our business, consumer, or social life and build a business to solve the problems or address the issues in a unique way. In the process of doing so, they take risks that might be different and bigger than a regular business. Entrepreneurial skills mostly includes identifying an opportunity for building a

business to solve a key problem or address a key issue in business. An entrepreneur may also identify an opportunity to solve a key problem or a key issue in a unique way, better than the way it is being done now. They develops a business plan, analyse sources and using financial, material, human resources, and other resources to implement the business plan, providing leadership to the people in the business, planning for uncertainty and ensuring business continuity.

An entrepreneurial mindset is a 21st-century skill for school students as an early intervention of entrepreneurship skills enables them to turn ideas into action. It includes creativity, innovation, and risk-taking as well as the ability to manage and lead the projects to achieve the aims and objectives.

1.3.0 EMERGENCE OF THE PROBLEM

According to the All India Survey on Higher Education (2021–2022) the number of B.Ed. students enrolled in India is 17.19L, nearly twice as many as the 8.1L enrolled in 2016–2017 (Page 21, para. 1). In addition, there are 27.8L temporary and visiting teachers working in Indian schools overall (Table 22 and 22a). And every year there are millions of the students passed out from B.Ed course. It has been seen a huge gap between the pass outs and the vacancies available for teaching job. Now to deal with the quick changes affecting all aspects of human life, new capacities and skills are required. In this regard, one of the abilities linked to lifelong learning is entrepreneurship. Another lifetime learning talent that is believed to be acquired by pupils in basic education is entrepreneurship. As we all know, there are relatively few job alternatives for a pupil teacher after completing a teacher education programme, such as becoming a teacher, educational researcher, private tutor, head teacher, or starting their own school. But today, everything has changed completely. Education has become an industry. There are multiple opportunities for teacher trainees available such as free-lancer, private pedagogue, project manager, writer, publisher, etc. Thus there is a need to make pupil teachers as an entrepreneur so that he or she can become a job provider rather than a job seeker.

According to NEP 2020 the teacher education program should be formulated in such a way that fulfils the demand of 21st century teaching. Pupil teachers are equipped with all the professional skills so that they can be role models for their students (Padmanabha, C. H. 2023). After completing the teachers training course, students are having very limited career options. So it important to equip them with some entrepreneurial skills which make them competent to create more job opportunities for survival.

This issue is also reported by National Skills Qualification Framework (NSQF), 2013. So Vocationalization of education is considered a milestone in developing entrepreneurial skills among the students. NEP 2020 aims that at least 50% of the students from school and higher education should be exposed to vocational education by 2025 (Naveen, H. M. 2022) and envisages the innovativeness and internationalisation in education that foster the holistic development of the students especially in higher education. It also brings positive changes in teacher education by improving the quality and restricting the institutions that run the B.Ed courses. NEP 2020 aiming that multidisciplinary skill based courses are also introduced for more career opportunities (Kumar, A. 2021)

In the current technological era, there is a need to expand the options for greater job chances for classroom teachers. Consequently, the need to establish some efficient educational courses for pupils that would aid in the development of their business talents has arisen. The demand for entrepreneurship education has grown along with globalisation, and there is a greater need for students who can offer original and clever solutions to challenging problems. Traditional methods of entrepreneurship education are simply insufficient, thus new approaches and pedagogies, such as guided inquiry-based learning, must be introduced. Entrepreneurship education promotes the development of students' technical capabilities, business management skills, personal entrepreneurial skills, etc. Due to the fact that an entrepreneur needs these talents to manage their daily business obligations (Almahry, F. F., Sarea, A. M., & Hamdan, A. M. 2018).

For surviving in the 21st century it is essential to equip yourself with 21st century skills. To change one with the dynamic environment, guided inquiry based learning helps to acquire and adopt the new skills. Guided inquiry based learning enables the students to gain competencies and abilities to confront upcoming hurdles and challenges in their professional and personal life. It is a collaboration of teachers and students to accomplish the desired goal and for inculcating 21st century skills, guided inquiry method plays a vital role (Kuhlthau, C. C., Maniotes, L. K., & Caspari, A. K. 2015). In the implementation of a teacher professional development programme, a guided inquiry-based learning strategy was utilised to enhance teachers' subject matter knowledge in the conceptual, epistemic, social, and procedural domains (van Uum, M. S., Peeters, M., & Verhoeff, R. P. 2021).

To incorporate the entrepreneurial skills among the pupil teacher, guided inquiry based learning seems

a suitable method to develop the intervention programme for the students because so many studies showed positive results after implementing this method for holistic development of the students. As entrepreneurial skills are key to success in coming the future, it is important to develop these skills among the students in the education sector.

1.4.0 JUSTIFICATION OF THE PROBLEM

NEP 2020 reported that as compared to other countries like USA, Germany, South Korea, etc., very small numbers of students received vocational education and also not considered in mainstream curriculum. In the current economic climate, starting a business has grown in appeal. Young learners and pupils that possess entrepreneurial skills tend to be more inquisitive, cooperative, creative, imaginative, and capable of sound reasoning. Along with teaching students risk management, inventiveness, adaptability, and strong networking skills, it also teaches them interpersonal and communication skills. NEP 2020 suggested the critical thinking, problem solving, social, ethical, and emotional capacities and dispositions should be develop along with foundational and higher-order cognitive capacities (Korada, M. 2023) and focusing on reducing rote learning that bring holistic development among the students and also promote 21st century skills that inculcate critical thinking and creativity, scientific temper, multilingualism, problem- solving, ethics, social responsibility, and digital literacy (Patel, K. V. 2023).

Previous policies are not focusing on enhancing the skill of the students, so the NEP 2020 emphasised on incorporating the vocational skills among the students. NEP 2020 brings reform in developing skills that are not only qualitatively but quantitatively assessed and also assess the objective knowledge of the students. To achieve this goal NEP 2020 introduced introductory courses, professional courses, and vocational courses for the students (Kaurav, R. P. S., Suresh, K. G., Narula, S., & Baber, R 2020). NEP 2020 set up a Professional Standard Setting Body (PSSB) under the General Education Council (GEC) for teacher preparation and development that is equipped with professional skills and competencies. (Dar, R. A., & Ganaie, N. A. 2023).

NEP 2020 has provided opportunities for the development of the education system through holistic, flexible, and learner-centric approaches. For developing the 21st century skills among the students, NEP 2020 emphasised on critical thinking, creativity, and problem-solving skills among learners that reduced

the gap between education and the career opportunity. It shifts the paradigm from rote learning and memorization to experimentation, collaboration, and exploration (Roy, Gautam, Mandal, Biswambhar, P.Y. 2021).

Numerous studies have shown that participants are more favourably impacted by the education given at younger age. Therefore, the CBSE curriculum includes projects and chapters that promote an entrepreneurial mindset in students which increase their learning, and prepare students for their future careers and personal lives. The CBSE curriculum instils the notion of being a "lifelong learner" and developing strong social and emotional skills, which are a crucial component of entrepreneurship, in addition to offering plenty of opportunities for interdisciplinary learning.

NEP 2020 recommending to equip the teachers and the students with suitable skills and shifting the paradigm from quantitative outcomes to qualitative one, vocational skills are integrated with industry level skills and embedding the education with advanced ICT based pedagogy (Kaurav, R. P. S., Narula, S., Baber, R., & Tiwari, P. 2021). Author assesses the benefits of NEP 2020 for different stakeholders. For students they increased more focus on skills and competencies that helps them to grab career opportunities. For teachers it suggested that they should upgrade them with advanced technology, subjects, and revamping pedagogy and make students competent for the future. Parents are now not burdening their children to opt for a particular stream of the subjects, students can choose subjects of their own choice which is suitable according to the skills and talent of the students (Kalyani, P. 2020).

We can effectively employ the GIBL intervention courses to enhance entrepreneurial abilities among students because students already have in born capabilities of entrepreneurship like problem solving skills, communication skills, decision making skills, leadership skills, etc. Guided inquiry learning model is an activity oriented model that helps in improving the student's ability in a scientific way where students solve the problems systematically, logically and analytically under the guidance of the teachers with confidence. It helps in improving science literacy skills on solubility and solubility product concepts of the students (Aulia, E., & Aulia, E. V. 2019). This approach significantly improves the critical thinking process of the learners as it helps students to investigate the situation, analyse and find alternative solutions to the problem. Students with better critical thinking processes are able to solve the problem, make decisions, develop skills and search scientifically by employing guided inquiry based

learning models (Seranica, C., Purwoko, A. A., & Hakim, A. 2018).

Entrepreneurship is the ability to develop and run a business built around a problem-solving idea. Entrepreneurs identify problems in businesses or social life and solve these issues. Entrepreneurship has emerged as a demanding subject. In the current economic climate, entrepreneurship is an increasingly attractive career option. Entrepreneurship contributes to economic growth and also leads to job generation. Thus the addition of a basic entrepreneurship program for young minds is a great way to boost problem-solving skills. As globalisation has increased, entrepreneurship education demands have also increased. More students are needed with the ability to provide smart and creative solutions to complex problems. Students in teachers training courses can highly benefit from these life skills, giving them a successful survival in the outside world.

So, the researcher wanted to take up a study to show the effect of guided inquiry based learning intervention programmes on educational entrepreneurial skills of pupil teachers. So far it was found that no study has been conducted on pupil teachers to incorporate entrepreneurial skills. After reviewing various researches, the following are the questions that arises in the mind of the researcher–

1. What are the core entrepreneurial skills needed for better career opportunities in the field of education?
2. What type of intervention programme based on guided inquiry learning be given to develop educational entrepreneurial skills?
3. What is the effect of guided inquiry based learning intervention programme on educational entrepreneurial skills of pupil teachers?
4. What are the challenges faced by pupil teachers when they approach for the job?
5. What are the career options available for the pupil teacher in educational sector?

2.0.0 STATEMENT OF THE PROBLEM

Effect of Guided Inquiry Based Learning Intervention Programme on Educational Entrepreneurial Skills of Pupil Teachers

3.0.0 DEFINITIONS OF THE TERMS USED IN THE STUDY

3.1.0 GUIDED INQUIRY BASED LEARNING (GIBL)

Guided inquiry learning is a scientific method of active discovery that employs students' critical,

logical, and creative thinking abilities to find answers to questions under the direction of teachers (Llewellyn, D. 2005).

OPERATIONAL DEFINITION

A sort of inquiry-based learning called guided inquiry involves the teacher providing scaffolding to lead the students through their queries. Educational entrepreneurial skills will be develop by using Guided inquiry based learning which includes following six steps- Initiation, Selection, Exploration, Formulation, Collection, Presentation given by Kuhlthau, C. C., Maniotes, L. K., and Caspari, A. K. (2015).

3.2.0 INTERVENTION PROGRAMME

A series of interconnected events occurring within a system where the change in outcome (attenuated or amplified) is not proportional to change in input, is used to define intervention programmes. Therefore, rather than being seen as fixed and bounded things, interventions are thought of as ongoing social processes (Hawe, P., Shiell, A., & Riley, T. 2009).

OPERATIONAL DEFINITION

An intervention programme is a curriculum for interventions that has a specific aims and intervention strategies that are employed to accomplish the program's aims. As a result, many modules will be developed in this study to improve the entrepreneurial skills of pupil teachers.

3.3.0 EDUCATIONAL ENTREPRENEURIAL SKILLS (EES)

An entrepreneur need to obtain or acquire certain skills for him/her to be successful entrepreneur called entrepreneurial skills. Skill is the ability and capacity to do something (Lucky, E. O. I., & Yusoff, N. B. M. 2017). Educational entrepreneur is a person who has a vision, can start a business, innovative, dyamic and flexible in operations. They should identified opportunities, initiate the business, work on growth and sustainability (Smith, K., Petersen, J.L., & Fund, N.V. 2006)

OPERATIONAL DEFINITION

In this study educational entrepreneurial skills are associated with development of those entrepreneurial skills which will help the pupil teachers to create better career opportunities in the field of education. In present study ten educational entrepreneurial skills to be developed in the pupil teachers are financial skills, opportunity identification and initiativeness, marketing and networking skills, communication

skills, technical skills, leadership and management skills, risk taking and assessment skills, innovative, creative and critical thinking skills, problem solving and decision making skills and, social skills.

3.4.0 PUPIL TEACHERS

According to Collins Dictionary (2023), "a young person who plans to be a teacher and who spends part of his or her time in preliminary education undertaking teaching duties under the supervision of the headteacher".

OPERATIONAL DEFINITION

A pupil-teacher is a college, university or graduate student who is teaching under the supervision of a certified teacher in order to qualify for a professional degree in education. In this study the pupil teachers are the students studying in secondary level teacher education programme recognized by NCTE.

4.0.0 OBJECTIVES OF THE STUDY

The objectives of the present study are:

Primary objectives

1. To identify the core entrepreneurial skills needed for better career opportunities in education sector through need analysis.
2. To develop the guided inquiry based learning modules on educational entrepreneurial skills among the pupil teacher.
3. To study the effect of guided inquiry based learning intervention programmes on educational entrepreneurial skills of pupil teachers.

Secondary objectives

1. To find the challenges faced by pupil teachers when they approach for the job.
2. To identify the other career option available for the pupil teacher.

5.0.0 HYPOTHESIS OF THE STUDY

With respect to objectives, the following alternative hypothesis has been framed:

H_{a1} : There will be a significant effect of the guided inquiry based learning intervention programme on the educational entrepreneurial skills of the pupil teachers

6.0.0 RESEARCH METHODOLOGY

The research methodologies of this study are –

7.0.0 VARIABLES OF THE STUDY

The variables of the study are as follows:

- Independent variable: Guided inquiry based learning intervention programme
- Dependent variable: Educational entrepreneurial skills of pupil teachers

8.0.0 DELIMITATION OF THE STUDY

The study will be delimited with respect to the following points:

1. The study will be delimited to Agra city only.
2. Only pupil teachers of B.Ed course will be selected for the study.
3. Guided inquiry based learning model given by Kuhlthau, C. C., Maniotes, L. K., & Caspari, A. K. (2015) will be used to develop educational entrepreneurial skills among the pupil teachers.
4. Selected entrepreneurial skills will be used for developing intervention programme. These skills are financial skills, opportunity identification and initiativeness, marketing and networking skills, communication skills, technical skills, leadership and management skills, risk taking and assessment skills, innovative, creative and critical thinking skills, problem solving and decision making skills and, social skills.
5. The duration of the intervention programme will be four weeks for 1.5 hours per day (approx.).

9.0.0 RESEARCH METHOD

Keeping the nature of problem in mind, the researcher will use Pre- experimental research method under single group pre-test post-test design in the present study. The experimental research method will be used to test the effect of the guided inquiry based learning intervention programme on the educational entrepreneurial skills of the pupil teachers.

10.0.0 RESEARCH DESIGN

In the present study Pre-test Post-test single group design will be followed. Figure 1 is showing the process of experimental research design (Pre-test Post-test Design). Same test will be used for pre-test and post-test. To ensure that the variation in results is only due to the intervention and due to experience, practice or any other factor, paired sample t-test will be used.

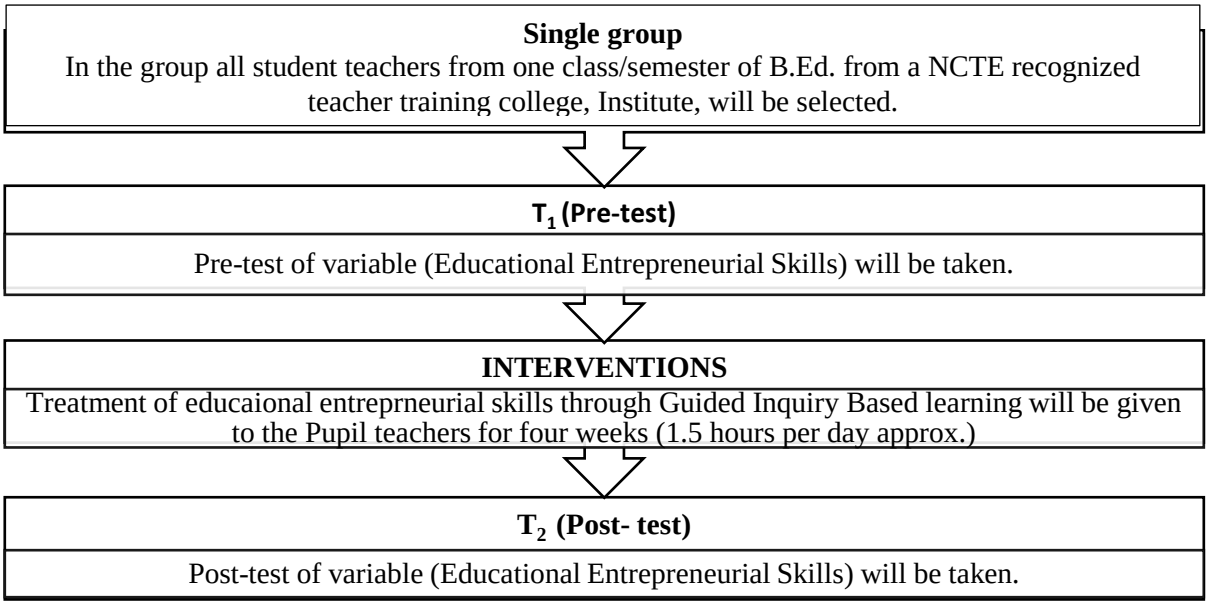
Single group
In the group all student teachers from one class/semester of B.Ed. from a NCTE recognized teacher training college, Institute, will be selected.
T1 (Pre-test)
Pre-test of variable (Educational Entrepreneurial Skills) will be taken.
INTERVENTIONS
Treatment of educaional entreprneurial skills through Guided Inquiry Based learning will be given to the Pupil teachers for four weeks (1.5 hours per day approx.)
T2 (Post- test)
Post-test of variable (Educational Entrepreneurial Skills) will be taken.

Figure 1: Experimental Research Design: Single group Pre-test Post-test Design

The researcher will develop the modules under which ten educational entrepreneurial skills will develop in the pupil teachers i.e. financial skills, opportunity identification and initiativeness, marketing and networking skills, communication skills, technical skills, leadership and management skills, risk taking and assessment skills, innovative, creative and critical thinking skills, problem solving and decision making skills and, social skills. These ten entrepreneurial skills are identified by researcher but it may be change in future on the basis of need analysis of educational entrepreneurial skills. The duration of the intervention programmes will be four weeks. These ten skills have been identified after reviewing the literature available on entrepreneurial skills. Table 1 gives the detailed description of the same.

Table 1: Types of Entrepreneurial Skills as mentioned by various by authors/researchers

Types of entrepreneurial skills	**References**
1. Financial skills	Mohamad, A., Hussin, M., & Buang, N. A. (2014), Dahlstrom, T. R., & Talmage, C. A. (2018).,Chell, E. (2013), Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Purohit, S., & Kumar, K. V. N. (2018),López-Núñez, M. I., Rubio-Valdehita, S., Armuña, C., & Pérez-Urria, E. (2022), Odia, J. O., & Odia, A. A. (2013), Adeyemo, S.A. (2009)., Jusoh, R., Ziyae, B., Asimiran, S., & Kadir, S. A. (2011), Christensen, K. J., Gunaratne, C., Nordman, B., & George, A. D. (2004)
2. Opportunity identification and initiativeness	Mohamad, A., Hussin, M., & Buang, N. A. (2014)), Dahlstrom, T.R. and Talmage, C.A. (2018)., Peltier, J. W., Scovotti, C., & Pointer, L. (2008), Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006).,Chell, E. (2013),Sousa, M.J. (2014), Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Giunipero, L. C., Denslow, D., & Eltantawy, R. (2005), Singh,

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3. Marketing and networking skills	Mohamad, A., Hussin, M., & Buang, N. A. (2014), Dahlstrom, T.R. and Talmage, C.A. (2018),Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006), Chell, E. (2013), Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Giunipero, L. C., Denslow, D., & Eltantawy, R. (2005), Purohit, S., & Kumar, K. V. N. (2018), Karuppiah G., & Vijayadurai, J. (2018), Sridevi, K. & Rathna, H. (2016),Bilén, S. G., Kisenwether, E. C., Rzasa, S. E., & Wise, J. C. (2005), Oosterbeek, H., Van Praag, M., & Ijsselstein, A. (2010), Odia, J. O., & Odia, A. A. (2013), Jardim, J. (2021)., Adeyemo, S.A. (2009).,Jusoh, R., Ziyae, B., Asimiran, S., & Kadir, S. A. (2011)
4. Communication Skills	Mohamad, A., Hussin, M., & Buang, N. A. (2014), Chatterjee, N., & Das, N. (2016), Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006), Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Giunipero, L. C., Denslow, D., & Eltantawy, R. (2005), Petrikova, D., & Sorokova, T. (2016), Singh, S., & Kumar, M. (2022), Purohit, S., & Kumar, K. V. N. (2018), Bilén, S. G., Kisenwether, E. C., Rzasa, S. E., & Wise, J. C. (2005), Christensen, K. J., Gunaratne, C., Nordman, B., & George, A. D. (2004), Leon, R.D. (2017), Jardim, J. (2021). , Adeyemo, S.A. (2009),Olutuase, S. O., Brijlal, P., & Yan, B. (2023)
5. Technical skills	Astuti, W., Supanto, F., & Supriadi, B. (2019).., Chatterjee, N., & Das, N. (2016), Sousa, M.J. (2014).,Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Singh, S., & Kumar, M. (2022) ,Smith, W. L., Schallenkamp, K., & Eichholz, D. E. (2007), Adeyemo, S.A. (2009)., Jusoh, R., Ziyae, B., Asimiran, S., & Kadir, S. A. (2011),Purohit, S., & Kumar, K. V. N. (2018)
6. Leadership and management skills	Mohamad, A., Hussin, M., & Buang, N. A. (2014)., Astuti, W. et al. (2019)., Chatterjee, N., & Das, N. (2016), Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006),Chell, E. (2013), Sousa, M.J. (2014), Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Petrikova, D., & Sorokova, T. (2016), Singh, S., & Kumar, M. (2022), Karuppiah G., & Vijayadurai, J. (2018), Lv, R. W., Lai, C., & Liu, J. (2015)., Christensen, K. J., Gunaratne, C., Nordman, B., & George, A. D. (2004),López-Núñez, M. I., Rubio-Valdehita, S., Armuña, C., & Pérez-Urria, E. (2022), Leon, R.D. (2017)., Odia, J. O., & Odia, A. A. (2013),Jardim, J. (2021)., Adeyemo, S.A. (2009), Jusoh, R., Ziyae, B., Asimiran, S., & Kadir, S. A. (2011),
7. Risk taking and assessment skills	Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006), Chell, E. (2013), Galvão, A., Marques, C., & Ferreira, J. J. (2020),Nehete, R. S., Narkhede, B. E., & Mahajan, S. K. (2011), Giunipero, L. C., Denslow, D., & Eltantawy, R. (2005), Purohit, S., & Kumar, K. V. N. (2018), Karuppiah G., & Vijayadurai, J. (2018), Bilén, S. G., Kisenwether, E. C., Rzasa, S. E., & Wise, J. C. (2005),Oosterbeek, H., Van Praag, M., & Ijsselstein, A. (2010),Dalyanto, A. (2021, March), Leon, R.D. (2017).,Odia, J. O., & Odia, A. A. (2013),Din, B. H., Anuar, A. R., & Usman, M. (2016),Reyad, S. M. R., Musleh Al-Sartawi, A., Badawi, S., & Hamdan, A. (2019), Badawi, S., Reyad, S., Khamis, R., Hamdan, A., & Alsartawi, A. M. (2019)
8. Innovative,	Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006), Chell,

creative and critical thinking skills	E. (2013),Galvão, A., Marques, C., & Ferreira, J. J. (2020), Giunipero, LC. and et al (2005),Singh, S., & Kumar, M. (2022), Karuppiah G., & Vijayadurai, J. (2018), Kalpana, M. & Thilakam, M. R. (2017) ,Bilén, S. G., Kisenwether, E. C., Rzasa, S. E., & Wise, J. C. (2005), Akhmetshin, E. M., Mueller, J. E., Yumashev, A. V., Kozachek, A. V., Prikhodko, A. N., & Safonova, E. E. (2019) , Oosterbeek, H., Van Praag, M., & Ijsselstein, A. (2010),Christensen, K. J., Gunaratne, C., Nordman, B., & George, A. D. (2004), López-Núñez, M. I., Rubio-Valdehita, S., Armuña, C., & Pérez-Urria, E. (2022), Leon, R.D. (2017), Odia, J. O., & Odia, A. A. (2013), Jardim, J. (2021)., Jusoh, R., Ziyae, B., Asimiran, S., & Kadir, S. A. (2011), olutuase, S. et al. (2020)., Reyad, S. M. R., Musleh Al-Sartawi, A., Badawi, S., & Hamdan, A. (2019), Badawi, S., Reyad, S., Khamis, R., Hamdan, A., & Alsartawi, A. M. (2019), Deveci, I. (2022).Purohit, S., & Kumar, K. V. N. (2018)
9. Problem solving and decision making skills	Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006), Chell, E. (2013), Giunipero, L. C., Denslow, D., & Eltantawy, R. (2005), Singh, S., & Kumar, M. (2022), Purohit, S., & Kumar, K. V. N. (2018), Karuppiah G., & Vijayadurai, J. (2018), Christensen, K. J., Gunaratne, C., Nordman, B., & George, A. D. (2004), López-Núñez, M. I., Rubio-Valdehita, S., Armuña, C., & Pérez-Urria, E. (2022), Leon, R.D. (2017), Jardim, J. (2021)., Adeyemo, S.A. (2009)., Olutuase, S. O., Brijlal, P., & Yan, B. (2023),Reyad, S. M. R., Musleh Al-Sartawi, A., Badawi, S., & Hamdan, A. (2019), Badawi, S., Reyad, S., Khamis, R., Hamdan, A., & Alsartawi, A. M. (2019).
10. Social skills	Pyysiäinen, J., Anderson, A., McElwee, G., & Vesala, K. (2006), Chell, E. (2013), Sousa, M.J. (2014), Karuppiah G., & Vijayadurai, J. (2018), Akhmetshin, E.M. and et al (2019), Oosterbeek, H., Van Praag, M., & Ijsselstein, A. (2010), Kalpana, M. & Thilakam, M. R. (2017)

Researcher explored more than 20 entrepreneurial skills in different researches, researches paper and articles like financial skills, start up business skills, organisational development skills, operational skills, marketing/sales skills, communication skills, management skills, technical skills, leadership skills, risk taking and management skills, innovativeness and creative skills, autonomy and independence, critical thinking skills, need for achievement, locus of control, problem solving skills, decision making skills, human relation skills, interpersonal skills, perservance, networking skills, customer orientation skill, etc. Researcher selected only ten entrepreneurial skills those are most commonly preferred by above mentioned authors/researchers. Finally selected entrepreneurial skill are financial skills, opportunity identification and initiativeness, marketing and networking skills, communication skills, technical skills, leadership and management skills, risk taking and assessment skills, innovative, creative and critical thinking skills, problem solving and decision making skills and, social skills.

10.1.0 PROCEDURE OF THE STUDY

The procedure of the study is divided into following four different phases-

Phase 1: Planning Phase

The first phase of the study consist of sample selection and the course on which the study will be done.

Phase 2: Developmental Phase

The predominant phase of the present study will be the developmental phase, which involves the development of Guided inquiry based learning intervention programme to incorporate educational entrepreneurial skills among the pupil teachers and tool to assess the skills involved in the present study. It will be carried out in the following stages, which are as follows:

Stage 1: Need Analysis: Identifying components of educational entrepreneurial skills which are cited by different studies or experienced by stakeholders of education sector.

Stage 2: Development of guided inquiry based learning intervention programme to incorporate educational entrepreneurial skills among the pupil teachers.

Stage 3: development of tool to assess the educational entrepreneurial skills.

Phase 3: Experimental / Implementation Phase

Stage 1: Collection of data to assess educational entrepreneurial skills of pupil teachers for Pre- Test.

Stage 2: The implementation of the guided inquiry based learning intervention programme to incorporate educational entrepreneurial skills among the pupil teachers.

Phase 4: Collection of Data and Testing of Hypotheses

This will be the final Phase of the study. This phase will deal with the study to determine the effect of guided inquiry based learning intervention programme on educational entrepreneurial skills of pupil teachers. In this phase firstly the data will be collected and then hypothesis will be tested. This phase will consist following stages:

Stage 1: Collection of data to assess the educational entrepreneurial skills of the pupil teacher after implementation of intervention programme for post-test.

Stage 2: Analyse the data and test the hypothesis.

11.0.0 POPULATION AND SAMPLE

The population will be the pupil teachers studying in Agra. The sample size will be 50 pupil teachers of B.Ed from Agra will be selected. The researcher will follow purposive sampling method while selection of the sample.

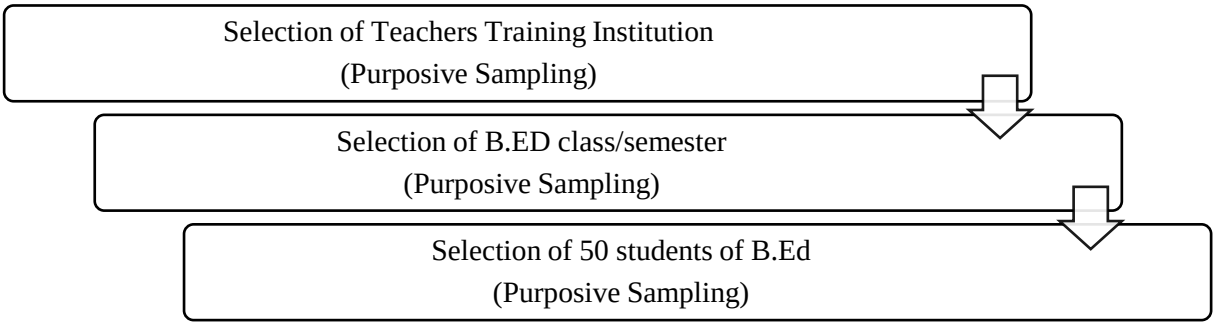

Figure 2: Process of sample selection

12.0.0 TOOL OF THE STUDY

A self-made educational entrepreneurial skills test and need assessment questionnaire to identify the needed educational entrepreneurial skills will be prepared by the researcher to study the effect of guided inquiry based learning intervention programme on educational entrepreneurial skills of pupil teachers. Other questionnaire that are explored but not seems suitable for the current study-

Table 2: Tools explored by the researcher

Title of the study	Given by	Selected/ Rejected	Reason for selection/Rejection
A Study of Entrepreneurial Skills Assessment of Expatriates in Abu Dhabi UAE	Purohit, S., & Kumar, K. V. N. (2018)	Rejecetd	Types of entrepreneurial skills under these studies are different and these tools are not assessed on pupil teacher (in context of education sector)
Assessment of entrepreneurial skills among the students of business management in Virudhunagar district	Karuppiah, G. & Vijayadurai, J. (2020)	Rejecetd	
A study of entrepreneurial intentions skills and competencies among students of higher education institutions in India	Solanki, N. (2023)	Rejecetd	
Entrepreneurial skills of graduate students a study	Sridevi, K. & Rathna, h. (2016)	Rejecetd	
Inculcating Entrepreneurial Skills among College Students	Kalpana, M. & Thilakam, M.R. (2017)	Rejecetd	

13.0.0 STATISTICAL TECHNIQUES

Descriptive Analysis will be performed by using mean. T-test will be used as inferential statistics. Graphical representation will be used for presenting data and results in visual form.

14.0.0 SIGNIFICANCE OF THE STUDY

By implementing the guided inquiry based learning intervention programme to enhance the educational entrepreneurial skills among pupil teachers enable pupil teachers to make connections about their

learning. Guided inquiry based learning modules help students to acquire skills by identifying problems, collecting data, analysing and verifying the situation under the guidance of the teachers. And results show that higher order thinking skills can be increased by using guided inquiry based learning modules (Indrayanti, I., Ngabekti, S., & Astuti, B. 2021).

Entrepreneurs play a key role in any economy, using the skills and initiative necessary to anticipate needs and bringing new ideas among pupil teachers. Entrepreneurship that proves to be successful in taking on the risks of creating a startup is rewarded with profits, fame, and continued growth opportunities. After effective implementation of the module, there are ample job opportunities available for the pupil teachers. The entrepreneurial skills are helpful in obtaining better job opportunities for the students of higher educational institutes and also promote innovative ideas among them (Kucel, A., Róbert, P., Buil, M., & Masferrer, N. 2016).

According to the All India Survey on Higher Education (2021–2022) the number of B.Ed. students enrolled in India is 17.19L, this is almost its twice of the enrollment of students (8.1L) in 2016–2017 (Page 21, para 1) and overall there are 27.8L visiting and temporary teachers working in the schools (Table 22 and 22a). According to the INDIA TV report, there are 8.4L vacancies released at elementary and secondary level in India. The education ministry reports that there are more than 8.4 openings in government schools at the elementary and secondary level (mittal, N. 2023, Dec 4). This shows a huge gap between the numbers of students enrolled and post vacant in teaching sector. So there is need to enhance their skills as well subject knowledge to face the competition.

With more people applying every day, the fight to pass the recruiting exam has gotten more intense. Following the Supreme Court's ruling, only candidates holding an elementary education diploma are eligible to apply for positions as primary teachers. This will lessen the job opportunities for B.Ed students. Salary is a major determinant of job happiness, private instructors are not as satisfied with their jobs as their counterparts, and the status of female private teachers is particularly problematic for those who are younger and less experienced. (Qazi, S., & Jeet, V. 2017).

Instructors in private secondary schools, particularly female instructors, have higher levels of occupational stress. When compared to secondary school teachers who receive government assistance, it is found that private teachers have much lower levels of job satisfaction (Bhusal, B. R., &

Vellisubbaian, T. 2019).

Private school teachers work in less advantageous financial and non-financial circumstances than their public school counterparts, having fewer access to paid time off, pensions, and health benefits. They also have less job security in terms of the existence and duration of a contract. Furthermore, private school teachers have less access to teacher unions, which makes it harder for them to bargain together for better working conditions. It is more common for private instructors to search for other jobs (Chudgar, A., & Sakamoto, J. 2021).

As there is a cut throat competition for fetching the job in teaching profession, newly degree holders are getting exploited by employers, paying very less remuneration, poor job security, over working hours, and have to work even on weekends. So to overcome these problems, pupil teachers have to be trained for more than one occupations and various educational entrepreneurial skills which hone their ability and help them adapt the changing environment need to be developed. Presently teaching is not only limited to teach students rather they have to be multitasker like managing class, preparing time table , guiding and counselling the students, organizing cultural programme, dealing with students and parents too, etc. Educational entrepreneurial skills help pupil teachers to make them more efficient and if they don't get any teaching job, they can start their own educational enterprise. This is only possible when they are given experiences of various kinds of educational entrepreneurial skills which the researcher already mentioned above.

Other than teaching, teachers can also explore in different kinds of occupations in which educational entrepreneurial skills are needed like school administrator/ director, can open library/e-library, writer/publisher/text book author/book reviewer, camp director/tour guide, educational event planner, TLM creator, Freelancer, educational blogger, podcaster, you tubers, online teaching, educational project manager, action researcher, content/e-content creator, private pedagogue, educational HR manager, educational consultant.

This study will help the pupil teachers to create more entrepreneurial skills that equip them with professional competencies and give them more career opportunities. Entrepreneurial skills development intervention programme through guided inquiry based learning helps students to develop a range of skills and competencies that are valuable in both their personal and professional lives. It teaches them

how to think creatively and critically, how to identify and solve problems, and how to take calculated risks. The programme developed by this research may be added in the teacher education curriculum so that the teacher education programme will be able to create job creator teacher rather than job seeker.

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